

# Work Order ID 57361

April 6, 2010 8:57:22 AM



Page 1

Item ID:	D206-642-541	Accept		Setup	Start	
Revision ID:						
Item Name:	Replacement Skidtube				Stop	
Start Date:	06/04/2010	Start Qty:	1.00			
Required Date:	16/04/2010	Req'd Qty:	1.00			
Reference:						

Approvals:	Process Plan:		Date:	10-4-06	Tooling:		Date:		Run	Start	
	QC:		Date:		SPC (Y/N):		Date:			Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3274	D								
IIN-D206-642	Rev M								

100		0.00							
	DOCUMENT CONTROL								
DC		0.00							
Document Control	Memo								
	Photocopy bluefile & type labels per PPP D206-642-541				CHG003				

N/A

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Page 2

Item ID:	D206-642-541	Accept		Setup	Start	
Revision ID:						
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Start Date:	06/04/2010	Start Qty: 1.00		Cust Item ID:		
Required Date:	16/04/2010	Req'd Qty: 1.00		Customer:		
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

110



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch: M112307/M113207 BE 10/04/12

4- grind fwd cap weld on top surface only BE 10/04/12

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

10/4/17

DP 10-4-8

11/04/14

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 3

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00  0.00				1	-	-	AWM 10-4-14
130  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00				1			12/10/15
140  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00				⑩			

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 4

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg D3274								
	2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube								
	3-Bond web in place as per Dwg D3274 & QSI 015. A/R <input type="checkbox"/> Sikaflex-291 <input checked="" type="checkbox"/> 112429 <input type="checkbox"/> Sikaflex expire date: <input checked="" type="checkbox"/> 10/8/30 <input type="checkbox"/> Start: <input checked="" type="checkbox"/> 12/1/15 <input type="checkbox"/> Time: <input checked="" type="checkbox"/> 12:50 <input type="checkbox"/> Finish: <input checked="" type="checkbox"/> 10/04/20 <input type="checkbox"/> Time: <input checked="" type="checkbox"/> 8:00 AM (Adhere for 12 hours)								
160 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00							

M 10/4/15

8 10/04/20

40

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Page 5

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Cust Item ID:

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

170

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2  
OPEN HOLES TO .297" . Debur

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD  
END OF TUBE  
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)  
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

DP 10-4-20

BE 10-04-20

180

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

h=3.10"  
L=4.7"

Solubito

70

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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April 6, 2010 8:57:22 AM



Page 7

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Start Date: 06/04/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 16/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210  QC Quality Control	QC10- Inspect visual per QSI004- ground welds  Memo	0.00 0.00							
			S 06/05/06						
220  HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 RE-ALIGNED PAR 09-043. Memo	0.00 0.00							
			=> 10/05/06						
230  Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 1114207 Memo START TIME: 10:45AM OVEN TEMPERATURE: 320°F FINISH TIME: 11:15AM	0.00 0.00							
			=> 10/05/06						

10/05/06

1 0

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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April 6, 2010 8:57:22 AM



Page 8

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Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00							① DR 10-5-10
250  HandFinish Hand Finishing	HandFinishing  Memo 1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. A/R <input type="checkbox"/> N/A <input type="checkbox"/> LPS-3 <input type="checkbox"/> 2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> <u>M 112429</u> Sikaflex expire date: <input type="checkbox"/> <u>10/08</u>	0.00  0.00							① DR 10-5-10
260  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo Inspect Nut Plate & Inserts	0.00  0.00							④ S 10/10

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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April 6, 2010 8:57:22 AM



Page 9

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Start Date: 06/04/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 16/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

270



HandFinish

Hand Finishing

HAND FINISHING RESOURCE #1

0.00

Memo

0.00

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☒ M112429  
Sikaflex expire date: ☐ 10/08.

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3  
A/R LPS-3 Batch:                     

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☒ M112429  
Sikaflex expire date: ☐ 10/08

①

PR 105-10.

280



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8/6/05/12

②

W/O:			WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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April 6, 2010 8:57:22 AM



Page 10

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Cust Item ID:

Required Date: 16/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
290  Packaging	Identify as per dwg & Stock Location: _____  Memo <i>PPD 57361</i>	0.00  0.00							<i>10/05/14</i>
300  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							<i>10/05/17</i> <i>10-5-17</i>

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

April 6, 2010 8:57:26 AM

Page 1

Work Order ID: 57361

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D2600-1-190

Manufactured No

110

Each

50.0000

1.0000



Extrusion Round 3" 206

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

50

47575

50

D3285-1

Manufactured No

110

Each

164.0000

1.0000



Cap

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

164

47635

15

52511

74

52647

75

D3282-041

Manufactured No

150

Each

4.0000

1.0000



Float Web (206L/407)

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

4

52696

4

1 MP14/17

1 BE 10/04/12

1 N 10/4/15

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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April 6, 2010 8:57:26 AM

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 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190

Each

85.0000

12000



Cross Bolt Spacer

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

85

55000

85

D3275-1

Manufactured No

190

Each

20.0000

12.0000



Crossbolt Spacer

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

20

53453

20

CR3212-4-03

Purchased No

250

Each

219.0000

2.0000



Cherry Rivet

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST311

219

111359

92

112314

127

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 2

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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April 6, 2010 8:57:26 AM

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 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3415-041

Manufactured No

250

Each

75.0000

1.0000



Nut Plate



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST056

75

33842 ✓

75

CCR264SS3-3

Purchased

No

250

Each

726.0000

2.0000



Cherry Rivet



1 BR 10-5-10

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST311

726

111548 ✓

4

112314

4

113539

92

113973

626

ALS4-1032-130

Purchased

No

250

Each

40.0000

78.0000



Insert



2 BR 10-5-10

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST282

40

110511

40

114407

78. BR 10-5-10.

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 3

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:26 AM

Page 4

Work Order ID: 57361



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments:

IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3536-15

Manufactured No

270

Each

19.0000

1.0000



Gasket



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

19

51600 ✓

7

56055

12

D3536-23

Manufactured No

270

Each

7.0000

1.0000



Gasket



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

7

57529  
53468

7

D3536-35

Manufactured No

270

Each

11.0000

1.0000



Gasket



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

11

51628 ✓

11

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 4

1 BR 10-5-10

1 BR 10-5-10

1 BR 10-5-10

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:26 AM

Page 5

Work Order ID: 57361



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3536-39

Manufactured No

270

Each

11.0000

1.0000



Gasket



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

11

48161

1

51637 ✓

10

D3535-15

Manufactured No

270

Each

14.0000

1.0000



Wearshoe



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

14

53462 ✓

4

56053

10

D3535-35

Manufactured No

270

Each

9.0000

1.0000



Wearshoe



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

9

51608 ✓

9

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 5

1 OK 10-5-10.

1 OK 10-5-10

1 OK 10-5-10.

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:26 AM

Page 6

Work Order ID: 57361

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3535-39 Manufactured No 270 Each 9.0000 1.0000  
 Wearshoe

Warehouse  
Location  
 Main Warehouse  
 FP 51619 ✓

Loc Qty

Loc Code

D3535-23 Manufactured No 270 Each 14.0000 1.0000  
 Wearshoe

Warehouse  
Location  
 Main Warehouse  
 FP 53467  
 56054 ✓

Loc Qty

Loc Code

D3537-3 Manufactured No 270 Each 20.0000 1.0000  
 Wearpad

Warehouse  
Location  
 Main Warehouse  
 FP 57512  
 35697

Loc Qty

Loc Code

1 BR 10-5-10.

1 BR 10-5-10.

1 BR 10-5-10.

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 6

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

April 6, 2010 8:57:26 AM

Page 7

Work Order ID: 57361



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments:

IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

270

Each

51.0000

9.0000



Wearpad



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP 57511  
 55465

51

51

9 BR 10-5-10.

AN960C10L

Purchased

No

270

Each

0.0000

80.0000



washer

AN960C416

Purchased

No

270

Each

377.0000

1.0000



washer

NAS 149C0332R 114341



80. BR 10-5-10.

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST346

100993 ✓

377

377

1 BR 10-5-10.

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 7

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:26 AM

Page 8

Work Order ID: 57361



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270

Each

1,589.000 2.0000



Phenolic Washer



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST077

1589

47628

89

51674 ✓

500

52505

1000

AN3C4A

Purchased

No

270

Each

1,249.000 80.0000



BOLT



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST350

1249

113226

248

114103

501

114108

500

2 PR 10-5-10

80 PR 10-5-10.

April 6, 2010 8:57:26 AM

Shop Packet Print

Page 8

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:26 AM

Page 9

Work Order ID: 57361



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments:

IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

AN4C5A

Purchased

No

270

Each

534.0000

1.0000



BOLT



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST346

534

110552 ✓

34

112243

500

1 BR 10-5-10

D2646

Manufactured

No

270

Each

35.0000

1.0000



Aft Cap



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP6

28

52663 ✓

28

Main Warehouse

fp7

7

52663

7

1 BR 10-5-10

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP		Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
				Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:26 AM

Page 10

Work Order ID: 57361



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured No

270

Each

31.0000

1.0000



Ring



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST473

58524

31

51586

8

53446

23

1

BP 10-5-12

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





DESIGN <b>CP</b>	DRAWN BY <b>PH</b>	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
CHECKED <b>[Signature]</b>	APPROVED <b>[Signature]</b>	DRAWING NO. <b>D3274</b>	REV. D SHEET 1 OF 4
DATE <b>06.12.19</b>		TITLE <b>SKIDTUBE ASSEMBLY</b> SCALE NTS	
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED  
07.02.12  
DEO ATTACHED

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING

UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 57361

BS10-4-06

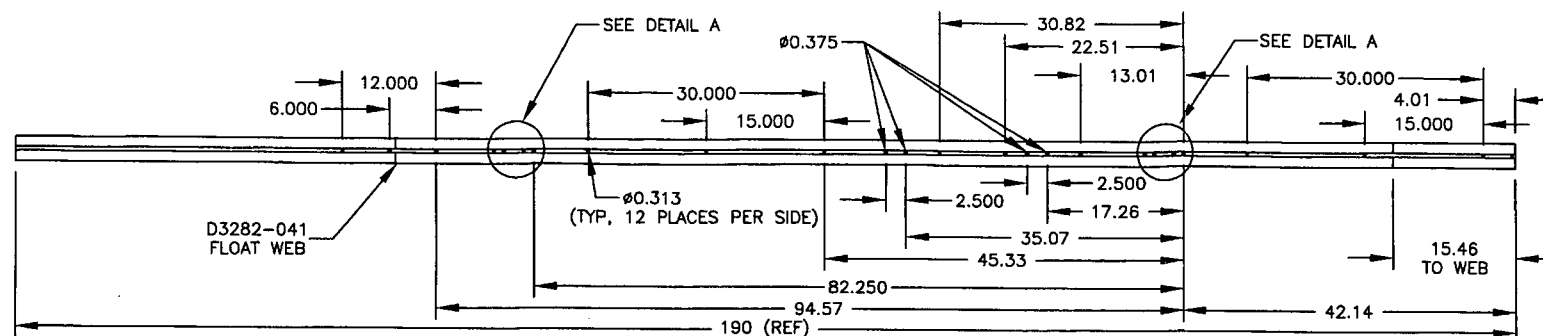
#### GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

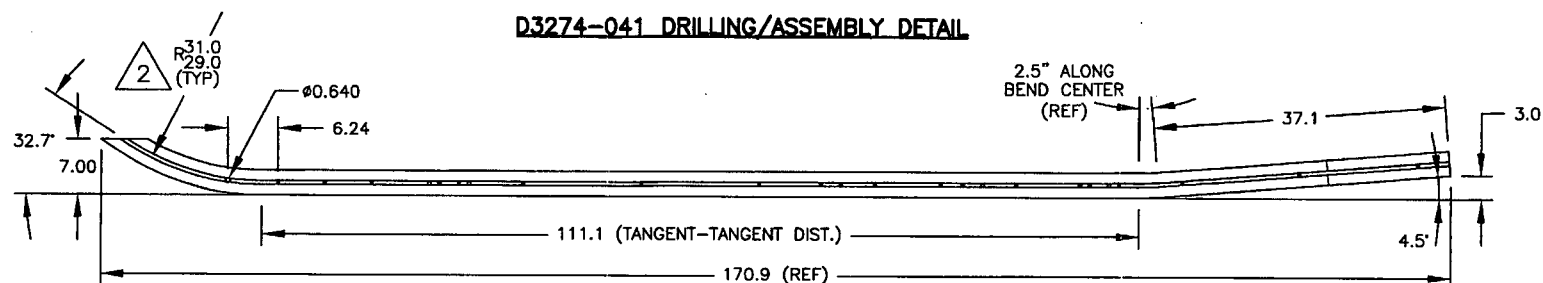
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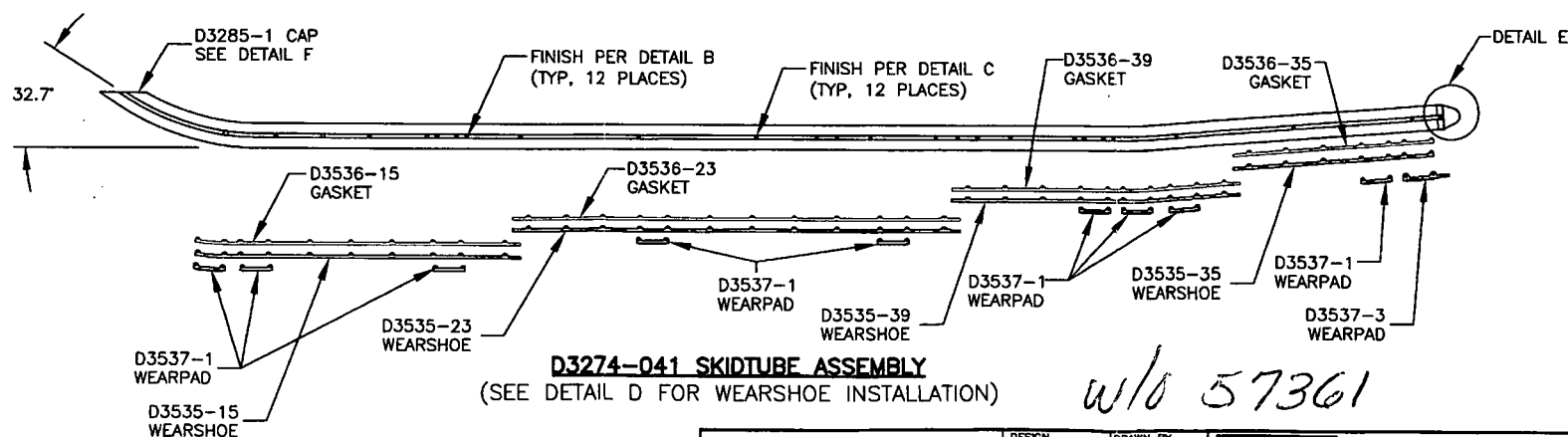
DEO ATTACHED



**D3274-041 DRILLING/ASSEMBLY DETAIL**



**D3274-041 BEND/DRILLING DETAIL**



**D3274-041 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

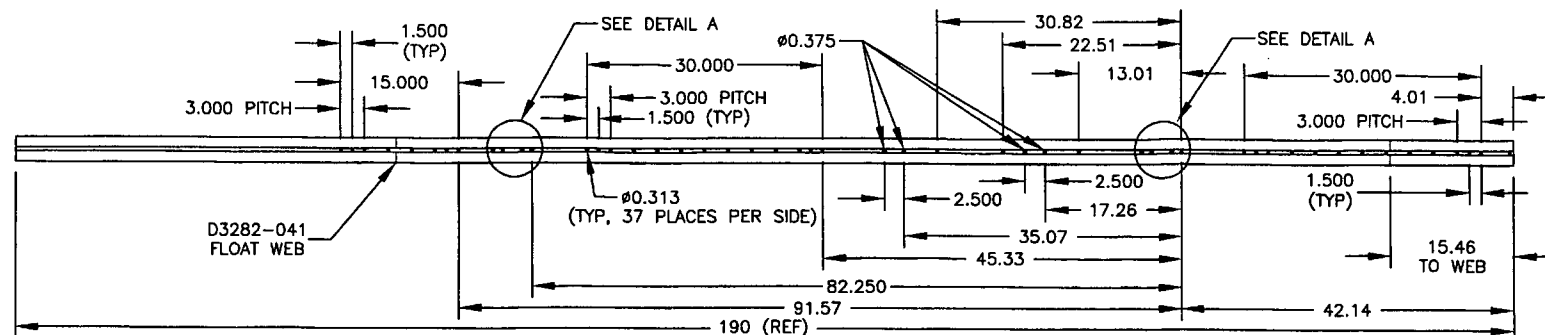
w/o 57361

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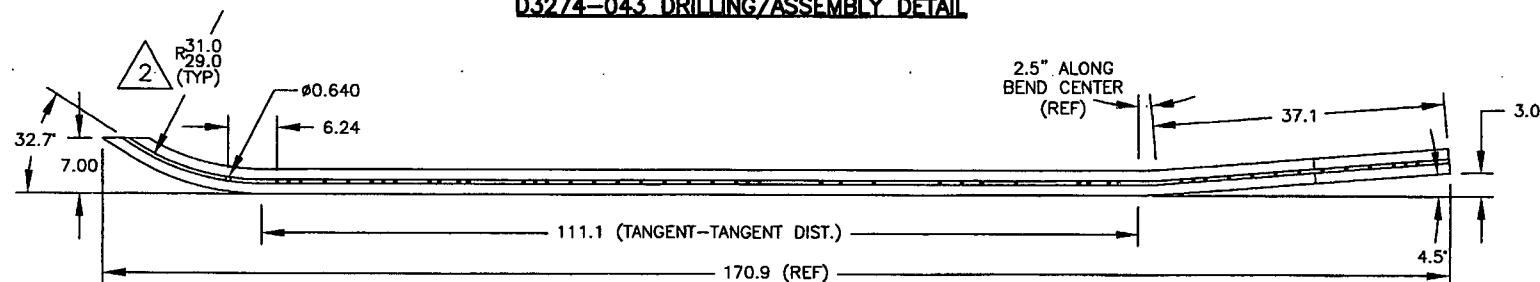
07.02.12

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THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		CHECKED #	APPROVED #	DRAWING NO. D3274
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY		REV. D SHEET 2 OF 4 SCALE 1:15

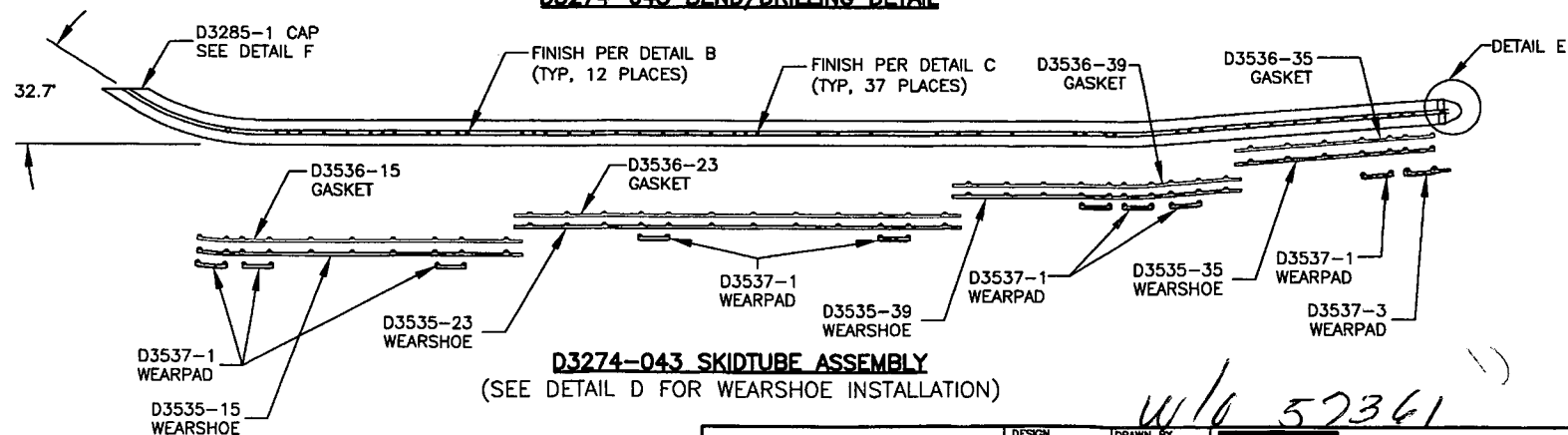
DEO ATTACHED



**D3274-043 DRILLING/ASSEMBLY DETAIL**



**D3274-043 BEND/DRILLING DETAIL**



**D3274-043 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

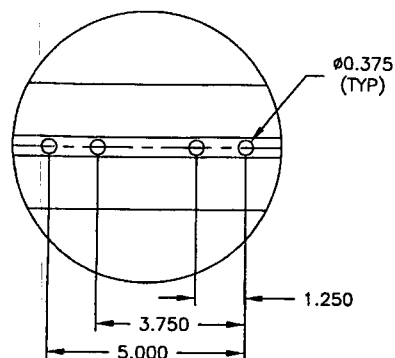
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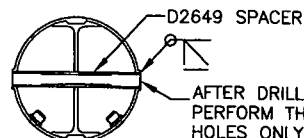
DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. FORT WADSWORTH, WA
CHECKED	#	APPROVED	#	DRAWING NO. D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D SHEET 3 OF 4 SCALE 1:15

U/L 52361

# **DETAIL A: DRILL DETAIL**

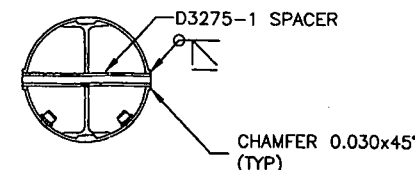


# **DETAIL B** FOR 0.375 HOLES ONLY

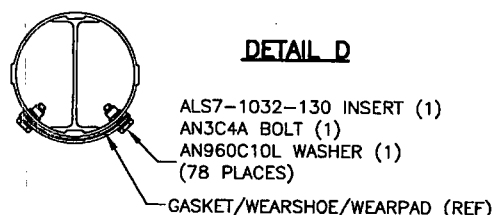


- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR 0.375  
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE TO 0.313x0.75 DEEP

# **DETAIL C** FOR 0.313 HOLES ONLY



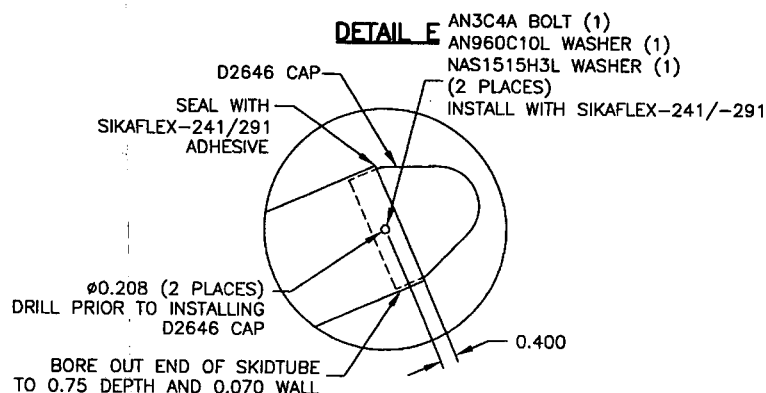
# **DETAIL D**



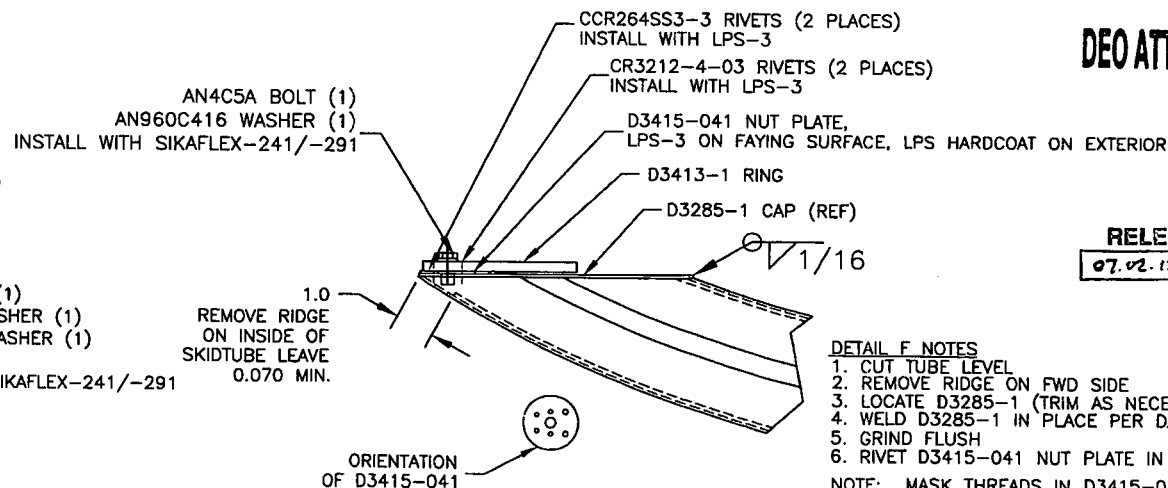
- ALS7-1032-130 INSERT (1)  
AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

# **DETAIL E**



# **DETAIL F: END FINISHING DETAIL**



**DEO ATTACHED**

**RELEASED**  
07.02.12

# **DETAIL F NOTES**

1. CUT TUBE LEVEL
  2. REMOVE RIDGE ON FWD SIDE
  3. LOCATE D3285-1 (TRIM AS NECESSARY)
  4. WELD D3285-1 IN PLACE PER DART QS: 004
  5. GRIND FLUSH
  6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

W 10 57361

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THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		CHECKED	H	APPROVED	H	DRAWING NO. D3274
		DATE	06.12.19	TITLE		SKIDTUBE ASSEMBLY
						REV. D SHEET 4 OF 4 SCALE 1:3

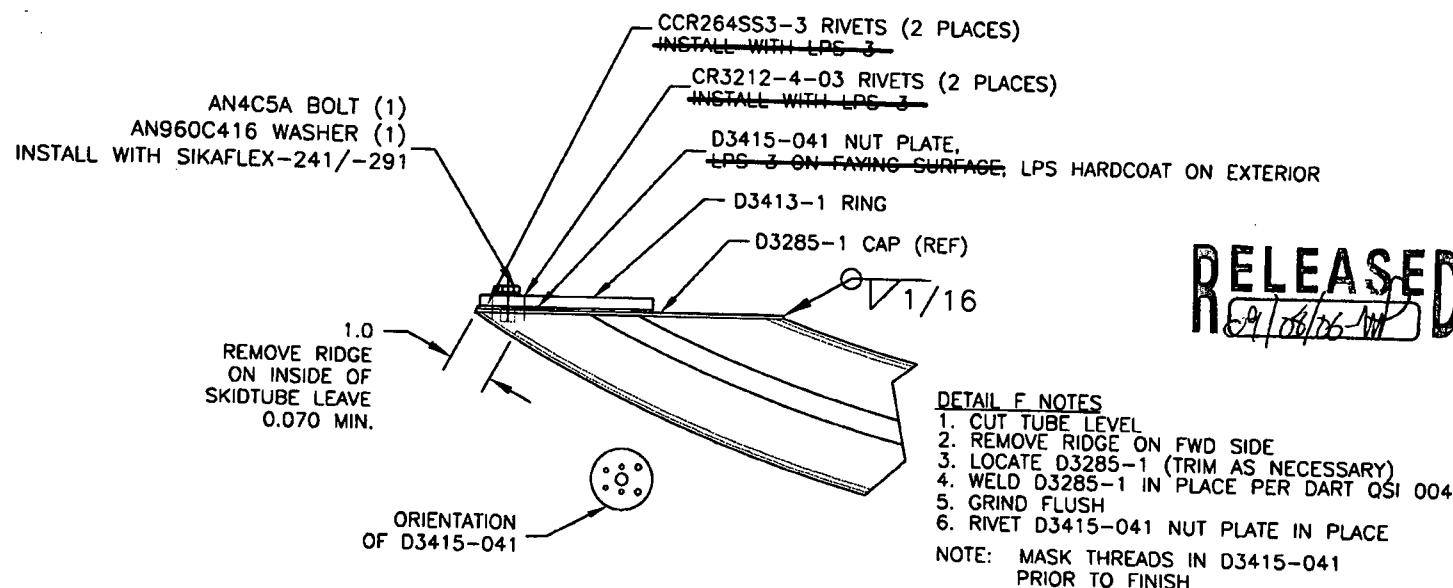
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>		DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23		DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS-3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

### DETAIL F: END FINISHING DETAIL



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W/057361

NO 230

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 57358  
Part number: D206-642-541  
Description: flange tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Rat. Phil Date of Test Coupon 10-05-05

Welder Barclay Elliott Date of Test Coupon 10-05-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld